

# Claims

[c1] What is claimed is:

1.A welder and compressor combination comprising:  
a transportable housing;  
an engine mounted within the transportable housing;  
an electrical generator configured to generate an arc welding current, the electrical generator mounted within the transportable housing and driven by the engine; and  
a screw air compressor having a clutch assembly driven by the engine.

[c2] 2.The combination of claim 1 further comprising a belt in operable association and driven by the engine to drive the screw air compressor and an oil separator tank connected to the screw air compressor to separate oil from compressed air.

[c3] 3.The combination of claim 1 further comprising an air filter configured to filter air to the screw air compressor and to supply air to a system output.

[c4] 4.The combination of claim 3 further including a compressor oil cooler assembly connected to the screw air compressor and capable of reducing a temperature of

compressor oil.

- [c5] 5.The combination of claim 4 wherein the compressor oil cooler assembly includes a dual purpose radiator having two cooling chambers, where one chamber cools compressor oil and a second chamber cools engine coolant.
- [c6] 6.The combination of claim 5 wherein the engine is an oil cooled engine that recirculates engine cooling oil in a cooling system and in a lubrication system and the second chamber of the radiator circulates engine oil therethrough.
- [c7] 7.The combination of claim 1 further including an inlet control valve pressure regulated and connected to control the flow of air in the screw air compressor.
- [c8] 8.The combination of claim 1 wherein the clutch assembly is a magnetic clutch assembly.
- [c9] 9.The combination of claim 1 further comprising a first mounting bracket connecting the screw air compressor to the engine such that a longitudinal length of the screw air compressor is aligned with a longitudinal length of the engine.
- [c10] 10.The combination of claim 9 wherein the first mounting bracket is bolted to only one of an engine block and

an engine head.

- [c11] 11.The combination of claim 10 further comprising a second mounting bracket bolted to the first mounting bracket and wherein the second mounting bracket is bolted to only one of the engine block and the engine head.
- [c12] 12.The combination of claim 11 wherein the first mounting bracket is bolted to the engine head and the screw air compressor, and the second mounting bracket is bolted to the first mounting bracket and the engine block.
- [c13] 13.The combination of claim 11 further comprising an alternator have an adjustable slide linkage connected thereto, the alternator mounted to an end of the second mounting bracket opposite of an end bolted to the first mounting bracket.
- [c14] 14.The combination of claim 9 further comprising a belt tensioner mounted to the first mounting bracket.
- [c15] 15.The combination of claim 13 further comprising a fan hub connected to the second mounting bracket, the fan hub rotated by a first belt.
- [c16] 16.An engine driven welder combination comprising:

a welder housing having internal components mounted thereto;  
an engine mounted within the welder housing;  
an electrical generator rotated by the engine to generate an arc welding current; and  
a screw air compressor having a disengageable drive pulley connected to be driven by the engine and wherein the screw air compressor is mounted on one of the engine and the electrical generator.

[c17] 17.The engine driven welder combination of claim 16 further comprising a pulley arrangement mounted to the engine and a belt drivingly connecting the screw air compressor to the engine via the pulley arrangement.

[c18] 18.The engine driven welder combination of claim 16 further comprising a first mounting bracket and a second mounting bracket, wherein each of the first and second mounting brackets are connected to only one of an engine block and an engine head.

[c19] 19.The engine driven welder combination of claim 18 wherein the first and second mounting brackets are connected to one another.

[c20] 20.The engine driven welder combination of claim 18 wherein the first mounting bracket supports the screw

air compressor.